AMENDMENTS TO THE CLAIMS

1. (Previously Presented) A noise reduction apparatus comprising:

a noise detector detecting a noise included in a demodulated audio signal;

a first corrector outputting a correction signal for correcting the noise according to a signal value existing just before and just after a predetermined period including a generation time point of the noise in the demodulated audio signal which is detected by said noise detector;

a second corrector outputting the correction signal for correcting the noise according to at least one of: one or more values of the demodulated audio signal which occur before the generation period of the noise which is detected by said noise detector, and one or more values of the demodulated audio signal which occur after the generation period;

a high band level detector detecting the level of a high band component of the demodulated audio signal; and

a selector selecting either one of said first or said second correctors according to the output of said high band level detector.

2. (Previously Presented) The noise removal apparatus according to Claim 1, wherein

said first corrector outputs a low pass filter output of a signal value obtained from a linear interpolation of two signal values existing just before and just after a predetermined period including a generation time point of the noise, as a correction signal.

3. (Previously Presented) The noise removal apparatus according to Claim 1, wherein

said second corrector outputs a low pass filter output of the signal value obtained from the linear interpolation of two average signal values obtained by averaging a plurality of signal values existing before and after a predetermined period including the generation time point of the noise, corresponding to each of before and after the generation of the noise, as a correction signal.

4. (Previously Presented) The noise removal apparatus according to Claim 1, further comprising:

a level detector detecting the whole band level in the demodulated audio signal, wherein said selector is operated according to a relationship between a ratio of the level output of said high band level detector to the level output of said level detector, and a predetermined value.

5. (Previously Presented) The noise removal apparatus according to Claim 1, wherein the detection sensitivity of said noise detector is changeable corresponding to the output level of said high band level detector.

6. (Canceled)

7. (Original) An audio output apparatus comprising said noise removal apparatus according to Claim 1.

8. (Currently Amended) A noise removal apparatus comprising:

a first demodulator configured to produce a demodulation signal, the demodulation signal having information corresponding to audio signals of a plurality of channels, each of the audio signals corresponding to a respective one of the plurality of channels;

an audio signal demodulator configured to receive and demodulate the demodulation signal produced by the first demodulator in order to obtain the audio signals corresponding to each of the plurality of channels from the demodulation signal, the audio signal demodulator further being configured to output the audio signals;

a noise detector configured to receive the demodulation signal communicated between the first demodulator and the audio signal demodulator, the noise detector further being configured to detect noise in the received demodulation signal;

a first corrector configured to correct the detected noise in each of the audio signals outputted from the audio signal demodulator according to a first correction technique;

a second corrector configured to correct the detected noise in each of the audio signals outputted from the audio signal demodulator according to a second correction technique; and

a selector configured to select one of the first and second ~~at least one~~ correctors ~~configured~~ to:

receive the audio signals respectively corresponding to the plurality of channels outputted from the audio signal demodulator, and

independently correct the detected noise in each of the audio signals outputted from said audio signal demodulator according to the output of said noise detector,

wherein the first and second correction techniques are ~~at least one corrector selects between~~ different techniques for independently correcting the detected noise in each of the audio signals, the first correction technique being designed to produce a smaller correction error than the second correction technique when the audio signals have a relatively low frequency with respect to a period of the detected noise, the second correction technique being designed to produce a smaller correction error than the first correction technique when the audio signals have a relatively high frequency with respect to the period of the detected noise, and

wherein the selection by the selector is based on a detected level of a high band component in the audio signals.

9. (Previously Presented) The noise removal apparatus according to Claim 8, wherein

said noise detector conducts the noise detection such that, for each predetermined period which alternates among a plurality of channels, a portion of the period respectively overlaps with each other.

10. (Previously Presented) The noise removal apparatus according to Claim 8, wherein

according to the output of said noise detector, a generation condition of the noise is detected, and corresponding to the detected result, the detection sensitivity of said noise detector is controlled.

11. (Original) An audio output apparatus including said noise removal apparatus according to Claim 8.

12. (Previously Presented) The noise removal apparatus according to Claim 1, wherein said selector includes a low pass filter for extracting a low frequency component of the demodulated audio signal, and wherein

the generating period of the noise in the demodulated audio signal which is detected by said noise detection means is corrected by holding the output signal from said low pass filter.

13. (Previously Presented) A method comprising:

detecting a period in which noise occurs in a demodulated signal;

detecting a level of a high band component of the demodulated signal;

configuring a correction signal for correcting the noise based on the high band component level according to the following:

if the high band component level satisfies a first criteria, applying a first configuration to the correction signal such that the configured correction signal extends from a signal value in the demodulated signal that occurs prior to the detected period, and

if the high band component level satisfies a second criteria, applying a second configuration to the correction signal based on a plurality of signal values in the demodulated signal that occur prior to the detected period.

14. (Previously Presented) The method of claim 13, wherein configuring the correction signal includes:

obtaining a first correction signal that extends from the signal value in the demodulated signal that occurs prior to the detected period;

obtaining a second correction signal based on the plurality of signal values in the demodulated signal that occur prior to the detected period;

selecting one of the first and second correction signals based on whether the high band component level satisfies the first or second criteria.

15. (Previously Presented) The method of claim 14, further comprising:

determining the signal value in the demodulated signal that occurs prior to the detected period;

determining a signal value in the demodulated signal that occurs subsequent to the detected period;

obtaining the first correction signal by performing a linear interpolation of the signal values in the demodulated signal respectively occurring prior to and subsequent to the detected period.

16. (Previously Presented) The method of claim 14, further comprising:

averaging the plurality of signal values in the demodulated signal that occur prior to the detection period to obtain a first average value,

wherein the second correction signal extends from the first average value.

17. (Previously Presented) The method of claim 16, further comprising:

averaging a plurality of signal values in the demodulated signals that occur subsequent to the detection period to obtain a second average value; and

obtaining the second correction signal by performing a linear interpolation on the first and second average values.

18. (Previously Presented) The method of claim 14, further comprising:

low pass filtering the plurality of signal values in the demodulated signal that occur before the detected period; and

holding a signal level of the low pass filtering to obtain the second correction signal.

19. (Previously Presented) The method of claim 14, wherein the selecting one of the first and second correction signals includes:

detecting a level of high and low band components of the demodulated signal;

obtaining a ratio of the high band component level to the high and low band components level;

determining whether the high band component level satisfies the first or second criteria based on the ratio,

wherein the high band component level satisfies the first criteria if the ratio is less than a predetermined level, and

the high band component level satisfies the second criteria if the ratio is larger than the predetermined level.

20. (Previously Presented) The method of claim 13, further comprising:

changing, based on the high band component level, a sensitivity of noise detection associated with the detecting the period in which noise occurs.

21. (Previously Presented) The method of claim 20, wherein the sensitivity of noise detection decreases as the high band component level increases.